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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER	
WEBB, GREGORY E	

ART UNIT	PAPER NUMBER
1751	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,011	CIOLETTI ET AL.	
	Examiner	Art Unit	
	Gregory E. Webb	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, and 4-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation “up to 10% fatty acid ester blend”, and the claim also recites the upper limit “up to 50% fatty acid ester blend” which is the narrower statement of the range/limitation. The phrase “up to” includes the lower limit of 0%. Thus the phrase

could be seen as "from 0-10% or from 0-50% fatty acid ester blend." It should also be noted that as the phrase "up to" includes the lower limit of 0% and as such the claim does not require the inclusion of either the fatty acid ester blend nor does the claim now require the inclusion of the lower alkyl glycol ethers.

4. As these two components are not required in the claim previous rejections are maintained.

Response to Arguments

5. Applicant's arguments filed have been fully considered but they are not persuasive. The applicant argues the prior art fails to teach the combination of features of claim 1. However, as was presented in the previous rejection the prior art is replete with compositions containing aromatic solvents, glycol ethers and alkyl esters. It is not clear which of these features is considered by applicant to be considered the unexpected. In fact each of the applicant's components is being added for very predictable reasons and for the identical reasons that are presented by the prior art. Thus it is unclear which of these features would be considered novel.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Claims XXX are anticipated by Stringer (US5858955).
Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Stringer teaches the following:

> The water insoluble saturated or unsaturated organic compound used which can be in the microemulsion is used at a concentration of about **1.0 wt. % to about 8 wt. %, more preferably about 2.0 wt. % to about 7 wt. %**. The water insoluble saturated or unsaturated organic compound is selected from the group consisting of water insoluble hydrocarbons containing a cycloalkyl group having 5 to 10 carbon atoms, wherein the alkyl or cycloalkyl group can be saturated or unsaturated and the cycloalkyl group can have one or more saturated or unsaturated alkyl groups having 1 to 20 carbon atoms affixed to the alkyl or cycloalkyl group and one or more halogens, alcohols, nitro or ester group substituted on the cycloalkyl group or alkyl group; **aromatic hydrocarbon**s; water insoluble ethers; water insoluble carboxylic acids, water insoluble alcohols, water insoluble amines, water insoluble esters, nitropropane, 2,5dimethylhydrofuran, 2-ethyl2-methyl 1,3dioxolane, 3-ethyl 4-propyl tetrahydropyran, N-isopropyl morpholine, alpha-methyl benzyldimethylamine, methyl chloraform and methyl perchlorapropane, and mixtures thereof. Typical hydrocarbons are cyclohexyl-1 decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheplane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical aromatic hydrocarbons are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene, and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl) ether, and diphenyl ether. A typical alcohol is phenoxyethanol. A typical water insoluble nitroderivative is nitro propane. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated nonylphenols, Stringer teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic alcohol ethoxylates, secondary aliphatic alcohol ethoxylates, **alkylphenol ethoxylates** and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with **sorbitan fatty acid esters such as the Tweens (ICI).** The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the

> polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether, terpene and the surfactant, Stringer teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. When these glycol type cosurfactants are at a concentration of about 1.0 to about 14 weight %, more preferably about 2.0 weight % to about 10 weight % in combination with a water insoluble hydrocarbon at a concentration of at least 0.5 weight %, more preferably 1.5 weight % one can form a microemulsion composition. (*emphasis added*)

8. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Drapier (US5840676).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent,

Drapier teaches the following:

> Typical heterocyclic compounds are 2,5-dimethylhydrofuran,2-methyl-1,3-dioxolane, 2-ethyl 2-methyl 1,3 dioxolane, 3-ethyl 4-propyl tetrahydropyran, 3-morpholino-1 ,2-propanediol and N-isopropyl morpholine A typical amine is alpha-methyl benzyldimethylamine. Typical halogens are 4-bromotoluene, butyl chloroform and methyl perchloropropane. Typical hydrocarbons are 1,3-dimethylcyclohexane, cyclohexyl-1decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheptane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl) ether and diphenyl ether. Typical alcohols are phenoxyethanol and 3-morpholino-1,2-propanediol. Typical water insoluble nitro derivatives are nitro butane and nitrobenzene. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated nonylphenols, Drapier teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially ell known and include the primary aliphatic alcohol ethoxylates, secondary aliphatic alcohol ethoxylates, **alkylphenol ethoxylates** and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with **sorbitan fatty acid esters such as the Tweens (ICI).** The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether, terpene and the surfactant, Drapier teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000,

> e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. When these glycol type cosurfactants are at a concentartion of about 1.0 to about 14 weight %, more preferably about 2.0 weight % to about 10 weight % in combination with a water insoluble hydrocarbon which is at a concentration of at least 0.5 weight %, more preferably 1.5 weight % one can form a microemulsion composition. (*emphasis added*)

9. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Durbut (US5665689).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Durbut teaches the following:

> The water insoluble saturated or unsaturated organic compound is used. The water insoluble saturated or unsaturated organic compound is selected from the group consisting of perfumes, essential oils or water

> insoluble hydrocarbons containing a cycloalkyl group having 5 to 10 carbon atoms, wherein the alkyl or cycloalkyl group can be saturated or unsaturated and the cycloalkyl group can have one or more saturated or unsaturated alkyl groups having 1 to 20 carbon atoms affixed to the alkyl or cycloalkyl group and one or more halogens, alcohols, nitro or ester group substituted on the cycloalkyl group or alkyl group; **aromatic hydrocarbon**s; water insoluble ethers; water insoluble carboxylic acids, water insoluble alcohols, water insoluble amines, water insoluble esters, nitropropane, 2,5dimethylhydrofuran, 2-ethyl2-methyl 1,3dioxolane, 3-ethyl 4-propyl tetrahydropyran, N-isopropyl morpholine, alpha-methyl benzyldimethylamine, methyl chloraform and methyl perchlorapropane, and mixtures thereof. Typical hydrocarbons are cyclohexyl-1decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nononane, dimethyl cycloheplane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene, and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl) ether, and diphenyl ether. A typical alcohol is phenoxyethanol. A typical water insoluble nitro derivative is nitro propane. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated nonylphenols, Durbut teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic alcohol ethoxylates, secondary aliphatic alcohol ethoxylates, **alkylphenol ethoxylates** and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with **sorbitan fatty acid esters such as the Tweens (ICI).** The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether, terpene and the surfactant, Durbut teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000,

> e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. When these glycol type cosurfactants are at a concentration of about 0.5 to about 50 wt. %, more preferably about 1.5 wt. % to about 20 wt. %, especially preferably about 2 wt. % to about 15 wt. % in combination with a water insoluble hydrocarbon at a concentration of at least 0.5 weight %, more preferably 1.5 weight % one can form a microemulsion composition. (*emphasis added*)

10. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mihelic (US5723430).

Concerning the naphthalene depleted aromatic solvent blend, Mihelic teaches the following:

> Examples of suitable organic solvents are dichlorotoluene, monochlorotoluene, ortho dichlorobenzene, **methyl naphthalene**, alkyl

> acetate C.sub.6 to C.sub.13 esters such as Exxon EXXATE.RTM. 900 (C.sub.9), 600 (C.sub.6), 700 (C.sub.7), 800 (C.sub.8), 1000 (C.sub.10), and 1300 (C.sub.13) solvents, m-pyrol sold by GAF and BASF, and terpenes such as GLIDSOL.RTM. 180 sold by SCM and GLIDCO. **Preferred solvents are Exxon aromatic solvents 200 and 200 ND (largely methyl naphthalene)**, dichlorotoluene sold by Oxy Chemical, Exxon EXXATE 900, and aromatic solvents containing substituted mono- and di-alkylnaphthalenes such as Amoco PANASOLAN-3S. (*emphasis added*)

Concerning the aromatic solvent, Mihelic teaches the following:

> (a) an organic solvent selected from the group consisting of dichlorotoluene, terpene hydrocarbon, **aromatic hydrocarbon**, oxyalcohol esters, m-pyrol, and mixtures thereof in an amount of from **7 to 18 weight percent**; (*emphasis added*)

Concerning the glycol ether and the terpene, Mihelic teaches the following:

> Glycol ethers which can be used in the microemulsion cleaners include such as **dipropylene glycol monomethylether (DPM) or tripropylene glycol monomethylether (TPM). Preferably used as the glycol ether is DPM. If DPM is used, the amount of glycol ether used in the microemulsion cleaner is from 5 to 40 weight percent, preferably 10 to 25 weight percent, most preferably 18 to 22 weight percent**, said weight percent is based upon the total weight of the microemulsion cleaner. For the concentrate, the quantity of DPM is preferably from 15-40 weight percent, most preferably 25-35 weight percent. If TPM is used, the amounts used are optimally about 15 percent greater than if DPM is used. (*emphasis added*)

Concerning the surfactant and the ethoxylated surfactant, Mihelic teaches the following:

> The nonionic surfactants used in the nonionic surfactant blends are most typically reaction products of long-chain alcohols with several moles of ethylene oxide having an average molecular weight of about 300 to about 3000. One of the nonionic surfactants of the blend is a lower hydrophillic ethoxylate. The lower hydrophillic ethoxylate is **linear alcohol ethoxylate** where a C.sub.9 -C.sub.11 and/or C.sub.12 -C.sub.18 linear alcohol chain is ethoxylated with an average of 1.0 to 5.0 moles of ethylene oxide per chain, preferably 2.0 to 4.0 moles of ethylene oxide. The other nonionic surfactant of the nonionic surfactant blend is a higher ethoxylate. The higher ethoxylate is a linear alcohol ethoxylate where a C.sub.9 -C.sub.11 and/or C.sub.12 -C.sub.18 linear alcohol chain is ethoxylated with at least 6.0 moles of ethylene oxide per chain, preferably an average of 6.0 to 20.0 moles of ethylene oxide per chain, and most preferably an average of 6.0 moles to 12.0 moles of ethylene oxide per chain. The ratio of lower

> ethoxylate to higher ethoxylate is from 1:10 to 10:1, preferably from 1:4 to 4:1. (*emphasis added*)

Concerning the corrosion inhibitor, Mihelic teaches the following:

> In addition to flashpoint inhibition, the primary amino alcohol acts as a vapor phase, contact phase, and interphase **corrosion inhibitor** in the cleaner equipment by inhibiting flash rusting which is often observed after conventional cleaning. (*emphasis added*)

11. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mihelic (US5401325).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Mihelic teaches the following:

> Examples of suitable organic solvents are dichlorotoluene, monochlorotoluene, ortho dichlorobenzene, **methyl naphthalene**, alkyl esters such as Exxon EXXATE.RTM. 900 solvent (a C.sub.9 alkyl acetate), m-pyrol sold by GAF and BASF, and terpenes such as GLIDSOL.RTM. 180 sold by SCM and GLIDCO. **Preferred solvents are Exxon aromatic solvents 200 and 200 ND (largely methyl naphthalene)** and dichlorotoluene sold by Oxy Chemical, and Exxon EXXATE 900. (*emphasis added*)

Concerning the glycol ether and the terpene, Mihelic teaches the following:

> Glycol ethers which can be used in the microemulsion cleaners include such as **dipropylene glycol monomethylether (DPM) or tripropylene glycol monomethylether (TPM). Preferably used as the glycol ether is DPM. If DPM is used, the amount of glycol ether used in the microemulsion cleaner is from 5 to 40 weight percent, preferably 10 to 25 weight percent, most preferably 18 to 22 weight percent**, said weight percent is based upon the total weight of the ready-to-use microemulsion cleaner. For the concentrate, the quantity of DPM is preferably from 15-40 weight percent, most preferably 25-35 weight percent. (*emphasis added*)

Concerning the ethoxylated surfactant, Mihelic teaches the following:

> The nonionic surfactants used are most typically reaction products of long-chain alcohols with several moles of ethylene oxide having an average

> molecular weight of about 300 to about 3000. Nonionic surfactants which can be used in the microemulsion cleaners preferably are blends of **linear alcohol ethoxylate**s such as those containing C.sub.9 -C.sub.11 and C.sub.12 -C.sub.18 carbon atoms in the linear alcohol chain ethoxylated with an average of 2.5 and/or 6.0 moles of ethylene oxide per chain. Preferably used are mixtures of C.sub.9 -C.sub.11 linear alcohols ethoxylated with an average of 2.5 and 6.0 moles of ethylene oxide per chain. The ratio of the 6 mole ethoxylates to 2.5 moles ethoxylates in the blend is preferably in the range of 1.5:1 to 2:1. (*emphasis added*)

12. Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Pollack (US6004920).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent,

Pollack teaches the following:

> Typical heterocyclic compounds are 2,5-dimethylhydrofuran,2-methyl-1,3-dioxolane, 2-ethyl 2-methyl 1,3 dioxolane, 3-ethyl 4-propyl tetrahydropyran, 3-morpholino-1,2-propanediol and N-isopropyl morpholine A typical amine is alpha-methyl benzyldimethylamine. Typical halogens are 4-bromotoluene, butyl chloroform and methyl perchloropropane. Typical hydrocarbons are 1,3-dimethylcyclohexane, cyclohexyl-1 decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheptane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate, isobutyl isobutyrate and, alipathic esters having the formula of: ##STR8## wherein R.sub.12,R.sub.14 and R.sub.15 are C.sub.2 to C.sub.8 alkyl groups, more preferably C.sub.3 to C.sub.7 alkyl groups and R.sub.13 is a C.sub.3 to C.sub.8 alkyl group, more preferably C.sub.4 to C.sub.7 alkyl group and n is a number from 3 to 8, more preferably 4 to 7. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated surfactant, Pollack teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic **alcohol**

> **ethoxylate**s, secondary aliphatic **alcohol ethoxylate**s, alkylphenol ethoxylates and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with **sorbitan fatty acid esters such as the Tweens** (ICI). The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether and the terpene, Pollack teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene **glycol** monoacetate and dipropylene **glycol** propionate. (*emphasis added*)

Concerning the sodium xylene sulfonate, Pollack teaches the following:

> The instant compositions contain at least one solubilizing agent which can be **sodium xylene sulfonate**, sodium cumene sulfonate, a C.sub.2-3 mono or dihydroxy alkanols such as ethanol, isopropanol and propylene glycol and mixtures thereof. The solubilizing agents are included in order to control low temperature cloud clear properties. Urea can be optionally employed in the instant composition as a supplemental solubilizing agent at a concentration of 0 to about 10 wt. %, more preferably about 0.5 wt. % to about 8 wt. %. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mondin (US6475973).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Mondin teaches the following:

> Typical heterocyclic compounds are 2,5-dimethylhydrofuran,2-methyl-1,3-dioxolane, 2-ethyl 2-methyl 1,3 dioxolane, 3-ethyl 4-propyl tetrahydropyran, 3-morpholino-1,2-propanediol and N-isopropyl morpholine A typical amine is alpha-methyl benzyldimethylamine. Typical halogens are 4-bromotoluene, butyl chloroform and methyl perchloropropane. Typical hydrocarbons are 1,3-dimethylcyclohexane, cyclohexyl-1 decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheptane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl)ether and diphenyl ether. Typical alcohols are phenoxyethanol and 3-morpholino-1,2-propanediol. Typical water insoluble nitro derivatives are nitro butane and nitrobenzene. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated surfactant, Mondin teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic **alcohol ethoxylate**s, secondary aliphatic **alcohol ethoxylate**s, alkylphenol ethoxylates and ethylene-oxide-propylene oxide condensates on primary

> alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with sorbitan **fatty acid esters** such as the **Tweens** (ICI). The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether and the terpene, Mondin teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. Preferred glycol ethers are propylene glycol monobutyl ether and dipropyl glycol butyl ether. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Erilli (US6156717).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Erilli teaches the following:

> Typical heterocyclic compounds are 2,5-dimethylhydrofuran,2-methyl-1,3-dioxolane, 2-ethyl 2-methyl 1,3 dioxolane, 3-ethyl 4-propyl tetrahydropyran, 3-morpholino-1,2-propanediol and N-isopropyl morpholine A typical amine is alphamethyl benzyldimethylamine. Typical halogens are 4-bromotoluene, butyl chloroform and methyl perchloropropane. Typical hydrocarbons are 1,3-dimethylcyclohexane, cyclohexyl-1decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheptane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl) ether and diphenyl ether. Typical alcohols are phenoxyethanol and 3-morpholino-1,2-propanediol. Typical water insoluble nitro derivatives are nitro butane and nitrobenzene. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether, alcohol acetate and the surfactant, Erilli teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di

> tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether, ethylene glycol monoacetate and dipropylene glycol propionate. When these glycol type cosurfactants are at a concentration of about 1.0 to about 14 weight %, more preferably about 2.0 weight % to about 10 weight % in combination with a water insoluble hydrocarbon which is at a concentration of at least 0.5 weight %, more preferably 1.5 weight % one can form a microemulsion composition. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Claims XXX are anticipated by Sullivan (US5015410).
Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Sullivan teaches the following:

> The use of **aromatic hydrocarbons** as the miscibilizing solvent is preferred due to their relatively low cost and effectiveness. Suitable aromatic hydrocarbons include, but are not limited to, C.sub.1 -C.sub.8 alkyl derivatives of benzene, naphthalene, and C.sub.1 -C.sub.8, alkyl derivatives of naphthalene, such as toluene, xylene (o, m, or p), cumene, ethyl benzene, mesitylene, durene, sec-amylbenzene, n-butylbenzene, naphthalene, **methyl naphthalene** (.alpha. or .beta.), and the like. Mixtures of aromatic hydrocarbons such as aromatic naphtha may also be advantageously employed. Additional examples of suitable commercially available aromatic hydrocarbons may be found in Industrial Solvents, 3rd Ed., E. W. Flick, Ed., Noyes Data Corp. (1985), pp. 57-83. (*emphasis added*)

Concerning the glycol ether and the alcohol ester, Sullivan teaches the following:

> Esters may also be used as the miscibilizing solvent, particularly **C.sub.4 - C.sub.12 aliphatic and aromatic esters such as n-butyl acetate, vinyl acetate, sec-butyl acetate, ethyl acetate, butyrolactone, amyl acetate, cyclohexyl acetate, amyl propionate, ethylene glycol monoacetate, ethylene glycol diacetate, ethyl propionate, ethyl n-butyrate, ethyl caprylate, ethyl valerate, methyl benzoate, phenyl acetate, and the like and mixtures thereof. Ketones, especially C.sub.5 -C.sub.12 aliphatic and aromatic ketones, are also suitable for use as the third component. Examples of useful ketones include, but are not limited to, cyclohexanone, ethyl butyl ketone, 4-methoxy-4-methyl-2-pentanone, acetophenone, diisobutyl ketone, methyl isobutyl ketone,**

> **methyl amyl ketone, methyl heptyl ketone, isophorone, diethyl ketone, methyl ethyl ketone, mesityl oxide, cyclopentanone, and the like and mixtures thereof. Glycol ethers represent another class of compounds which can be utilized. Preferred glycol ethers include C.sub.1 -C.sub.6 alkyl mono- and diethers of C.sub.2 -C.sub.9 alkylene glycols such as propylene glycol monomethyl ether, propylene glycol mono-t-butyl ether, ethylene glycol mono-n-butylether, ethylene glycol di-n-butyl ether, dipropylene glycol mono-methyl ether, tripropylene glycol mono-methyl ether, triethylene glycol dimethyl ether (triglyme), ethylene glycol mono-ethyl ether, propylene glycol mono-n-propyl ether, propylene glycol mono-n-butyl ether, and the like and mixtures thereof. Glycol ether esters, particularly C.sub.2 -C.sub.4 carboxylic acid esters of C.sub.1 - C.sub.6 alkyl monoethers of C.sub.2 -C.sub.9 alkylene glycols**, are suitable for use as the miscibilizing solvent in the blends of this invention. Exemplary glycol ether esters include, but are not limited to, diethylene glycol methyl ether acetate, ethylene glycol methyl ether acetate, propylene glycol methyl ether acetate, ethylene glycol butyl ether acetate, ethylene glycol ethyl ether acetate, ethylene glycol ethyl ether butyrate, and the like and mixtures thereof. Examples of other suitable ketones, esters, glycol ethers, and glycol ether esters may be found in Industrial Solvents, 3rd Ed., E. W. Flick, Ed., Noyes Data Corp. (1985), pp. 410-436, 469-500, and 591-635. (*emphasis added*)

Concerning the surfactant and the ethoxylated nonylphenols, Sullivan teaches the following:

> Optionally, an additive may be combined with the homogeneous blends of this invention to modify the performance of the coatings remover. For example, a surfactant or combination of surfactants may be present in order to improve wetting of the coating to be removed and to hasten penetration of the active components. In addition, surfactants facilitate water rinsing and water clean-up of the substrate after removal of the coating. Anionic, cationic, nonionic or amphoteric surfactants or combinations thereof may be utilized. Preferred types of surfactants include, but are not limited to, polyoxyethylene derivatives of aromatic and aliphatic alcohols, (e.g., **nonyl phenoxy polyoxyethylene ethanol)**, alkali metal salts of C.sub.8 to C.sub.22 aliphatic sulfates, (e.g., sodium lauryl sulfate), alkali metal salts of alkyl aromatic sulfonates (e.g., **sodium dodecyl benzene sulfonate**), dialkyl sulfosuccinates (e.g., dioctyl sulfosuccinate), and the like and mixtures thereof. Examples of other suitable surfactants are described in Cahn et al, "Surfactants and Detersive Systems", Kirk-Othmer Encyclopedia of Chemical Technology, 3rd Ed., (1983) Vol. 22, pp. 332-432. The concentration of surfactant is not

> critical, but preferably is from about 0.1 to 8 weight percent of the coatings remover composition. (*emphasis added*)

Concerning the corrosion inhibitor, Sullivan teaches the following:

> Accelerators may be included as additives at levels of up to about 20 weight percent of the coatings remover in order to enhance removal of highly resistant coatings. The accelerators are believed to accentuate the performance of the composition by chemically attacking the organic binder of the coating and thereby weakening the adhesion and cohesion of the coating. Exemplary accelerators include C.sub.1 -C.sub.22 carboxylic acids (e.g., formic, acetic, propionic, oleic, oxalic or hydroxyacetic acid) and organoamines (e.g., ethanolamine, diethanolamine, ethylenediaminetetraacetic acid, morpholine, triethanolamine, triethylamine, or 2-(N,N'-diethylamino)ethanol). Organoamine accelerators are preferred. If an acidic accelerator is used, it may be desirable to also incorporate a **corrosion inhibitor** to protect the substrate being stripped. Suitable **corrosion inhibitor**s include triethylammonium phosphate and sodium benzoate as well as alkali metal and alkaline earth alkyl aromatic sulfonates. Up to about 3 weight percent **corrosion inhibitor** is typically employed. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by

Claims XXX are anticipated by Dreisbach (US6369010).
Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Dreisbach teaches the following:

> The present composition uses a combination of a cleaning solvent and a surfactant to prevent the deposition of contaminants from resinous pulp and/or recycled pulp in the felt press section of a pulp and paper process. The cleaning solvent comprises a blend of aromatic hydrocarbons containing between nine and eleven carbon atoms that preferably has a flash point of greater than 140.degree. F. Although the cleaning solvent includes aromatic hydrocarbons containing between nine and eleven carbon atoms, it can also include aromatic hydrocarbons having less than nine or carbon atoms or having more than eleven carbon atoms in accordance with the invention. Preferably, the cleaning solvent includes at least about 95% aromatic hydrocarbons, more preferably, more than about 98% aromatic hydrocarbons. The cleaning solvent (and the composition itself) is preferably substantially free of naphthalene (e.g. less than 1%). In addition, the present composition effectively cleans the pressing equipment while using a minimal amount of VOC's. **An**

> **exemplary cleaning solvent for use in the invention is SURE SOL.RTM. 150ND, a C9-C11, naphthalene-depleted mononuclear aromatic solvent commercially available from Koch Specialty Chemical Company in Houston, Tex. (USA), having a specific gravity of 0.8796, a flash point of about 145.degree. F. and greater than 98% aromatic hydrocarbons.** (*emphasis added*)

Concerning the surfactant and the ethoxylated surfactant, Dreisbach teaches the following:

> The present composition preferably includes from 5 to 80% of the aromatic hydrocarbon cleaning solvent, from 15 to 90% of the **alcohol ethoxylate surfactant**, from 0 to 15% of the formulation solvent, from 0 to 20% water, from 0 to 2% of a second surfactant, and from 0 to 5% of buffers and other additives, on a mass basis. More preferably, the composition includes from 15 to 45% of the aromatic hydrocarbon cleaning solvent, from 40 to 70% of the **alcohol ethoxylate surfactant**, from 2 to 12% of the formulation solvent, from 2 to 15% water, from 0 to 1% of the second surfactant, and from 0 to 5% of buffers and other additives. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Weitz (US5811380).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Weitz teaches the following:

> Aromatic solvents used in the present invention are C.sub.1 -C.sub.8 alkyl derivatives of benzene and naphthalene. **Naphthalene-depleted aromatic petroleum distillates are also useful in the present invention**. For example toluene, xylene, cumene, ethylbenzene, ethylmethylbenzene, meisitylene and durene are useful in the present invention. (*emphasis added*)

Concerning the terpene, Weitz teaches the following:

> The **terpene** hydrocarbons useful in the present invention include **dipentene, alpha-pinene, beta-pinene, nonal, octanal, para-menthadiene, para-cymene, limonene, cedrene, turpentine, 2-methly-6-methylene-2,7-octadiene, 2,6-dimethyl-2,4,6-octadiene**, and the like, and mixtures thereof. (*emphasis added*)

Concerning the antioxidant, Weitz teaches the following:

> The present invention is directed to water insoluble cleaning compositions, having preservative and **antioxidant** properties for use in cleaning and preserving insulated telecommunication cable. The water insoluble cleaners of the present invention include a solvent, a preservative oil and an **antioxidant**. In a preferred embodiment, the present invention is directed to a cleaning composition which includes from 80 to 98.45 percent by weight solvent, from 0.5 to 20 percent by weight preservative oil and from 0.05 to 1.0 percent by weight **antioxidant**. In a more preferred embodiment, the composition includes from 80 to 98.45 percent by weight solvent, from 2.0 to 8.0 percent by weight preservative oil and from 0.09 to 0.9 percent by weight **antioxidant**. In a most preferred embodiment, the composition includes 94 percent by weight solvent, 5.88 percent by weight preservative oil and 0.12 percent by weight **antioxidant**. (*emphasis added*)

Concerning the flashpoint, Weitz teaches the following:

> The more preferred solvents are those which are non-flammable, i.e., have **flash point**s above 140.degree. F. and up to 250.degree. F. From an environmental and safety view, the preferred solvents include solvents with **flash point**s of 150.degree. F. or above. Further, the solvents used in the present invention are preferably liquids at ambient temperature. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Michelotti, Francis W. (US5728664).

Concerning the naphthalene depleted aromatic solvent blend, Michelotti, Francis W. teaches the following:

> _____ Stripping Test Stripping Negative Post Bake/ Results; No. Compositions % Photoresist 60 min. .degree.C. % wafer cleared _____ A nonyl phenol KTI-747* none 0 aromatic **200 ND** SC-100** none 0 (25/75) KTI-747 150 0 SC-100 150 0 B dodecylbenzene KTI-747 none <50% sulfonic acid SC-100 none <50% KTI-747 150 <50% SC-100 150 <50% C dodecylbenzene KTI-747 none 100% sulfonic SC-100 none 100% acid 16%, KTI-747 150 100% xylene sulfonic SC-100 150 100% acid 4%, nonyl phenol 10% aromatic, **200 ND** 70% _____ *Polyisoprene type negative resist from Eastman Kodak Co. **negative resist from OlinHunt

(*emphasis added*)

Concerning the aromatic solvent, Michelotti, Francis W. teaches the following:

> U.S. Pat. No. 4,165,294 to John E. Vander Mey discloses a stripping solution free from chlorinated hydrocarbons comprising a surfactant, an alkylarylsulfonic acid and an **aromatic hydrocarbon** having a boiling point above 150.degree. C. The **aromatic hydrocarbon**s are optional and are preferably mixtures of **aromatic solvent**s having 9-13 alkyl carbons and do not comprise more than 40 weight percent. The composition does however cause pitting in many photoresist substrates. (*emphasis added*)

Concerning the glycol ether, Michelotti, Francis W. teaches the following:

> After the photoresist has been stripped from the substrate, the substrate is rinsed in any aqueous rinsing liquid. A solvent rinse may follow the stripping step, with solvents such as isopropanol, butyl**cellosolve** or methyl**cellosolve** being used. Since, however, the present compositions are substantially and cleanly water rinseable, it is acceptable to rinse with deionized water of the purity commonly found in semiconductor processing directly after stripping. (*emphasis added*)

Concerning the surfactant, Michelotti, Francis W. teaches the following:

> It has been surprisingly discovered that when a surfactant linear **monalkylbenzenesulfonic** acid is used in combination with an alkyl phenol which acts as an inhibitor and a surfactant, such as **nonyl phenol**, and another sulfonic acid, namely dialkylbenzene sulfonic acid, together with a solvent essentially comprising a mono- or dialkyl naphthalene, there is provided a composition which results in a surprising improvement in removing coatings from negative photoresists, which coatings will not redeposit, is cleanly rinseable with water and does not cause corrosion. (*emphasis added*)

Concerning the corrosion inhibitor, Michelotti, Francis W. teaches the following:

> This invention relates to photoresist stripping compositions. More particularly, the invention relates to a non-aqueous chlorine-free negative photoresist stripping composition containing aromatic solvents and a mixture of aromatic sulfonic acids that can be easily rinsed away with water. Moreover, the composition is provided with a **corrosion inhibitor**. (*emphasis added*)

Claims 1, and 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorlin, Philip (US5929024).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Gorlin, Philip teaches the following:

> The water insoluble saturated or unsaturated organic compound used which can be in the microemulsion is used at a concentration of about 1.0 wt. % to about 8 wt. %, more preferably about 2.0 wt. % to about 7 wt. %. The water insoluble saturated or unsaturated organic compound is selected from the group consisting of water insoluble hydrocarbons containing a cycloalkyl group having 5 to 10 carbon atoms, wherein the alkyl or cycloalkyl group can be saturated or unsaturated and the cycloalkyl group can have one or more saturated or unsaturated alkyl groups having 1 to 20 carbon atoms affixed to the alkyl or cycloalkyl group and one or more halogens, alcohols, nitro or ester group substituted on the cycloalkyl group or alkyl group; **aromatic hydrocarbon**s; water insoluble ethers; water insoluble carboxylic acids, water insoluble alcohols, water insoluble amines, water insoluble esters, nitropropane, 2,5dimethylhydrofuran, 2-ethyl2-methyl 1,3dioxolane, 3-ethyl 4-propyl tetrahydropyran, N-isopropyl morpholine, alpha-methyl benzyldimethylamine, methyl chloraform and methyl perchlorapropane, and mixtures thereof. Typical hydrocarbons are cyclohexyl-1 decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheplane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene, and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate and isobutyl isobutyrate. Typical water insoluble ethers are di(alphamethyl benzyl) ether, and diphenyl ether. A typical alcohol is phenoxyethanol. A typical water insoluble nitroderivative is nitro propane. (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated nonylphenols, Gorlin, Philip teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic **alcohol ethoxylate**s, secondary aliphatic **alcohol ethoxylate**s, **alkylphenol ethoxylates** and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with **sorbitan fatty acid esters such as the Tweens (ICI).** The nonionic synthetic organic detergents generally are the condensation products of an organic aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be

adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether, terpene and the surfactant, Gorlin, Philip teaches the following:

Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether and mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. When these glycol type cosurfactants are at a concentration of about 1.0 to about 14 weight %, more preferably about 2.0 weight % to about 10 weight % in combination with a water insoluble hydrocarbon at a concentration of at least 0.5 weight %, more preferably 1.5 weight % one can form a microemulsion composition. (*emphasis added*)

Concerning the sodium xylene sulfonate, Gorlin, Philip teaches the following:

The at least one solubilizing agent can be **sodium xylene sulfonate**, sodium cumene sulfonate, a C.sub.2-3 mono or dihydroxy alkanols such as ethanol, isopropanol and propylene glycol and mixtures thereof. The solubilizing agents are included in order to control low temperature cloud clear properties in a composition containing a solubilizing agent, urea can be optionally employed in the instant composition as a supplemental

> solubilizing agent at a concentration of 0 to about 10 wt. %, more preferably about 0.5 wt. % to about 8 wt. %. (*emphasis added*)

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Libutti, Bruce L. (US5972874).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Libutti, Bruce L. teaches the following:

> Examples of suitable aromatic solvents are methyl napthalene, and **Exxon aromatic solvents 100, 150, and 200, and the naphthalene depleted versions thereof**, and aromatic solvents containing substituted mono- and di-alkylnaphthalenes such as Amoco Pansaol AN-3S. Examples of suitable aliphatic solvents are Exxsol D-60, D-80 and D-110 sold by Exxon, Conoco 145, 170 and 200 solvents, and Shell 142HT. Other solvents may be used including unsaturated solvents such as terpenes, for example Glidsol 180 from SCM Glidco, and oxygen-bearing solvents such as the series of esters Exxate 600, 700, 800, 900 1000 and 1300 from Exxon. The preferred solvents are the aromatic and aliphatic solvents. (*emphasis added*)

Concerning the glycol ether and the alcohol acetate, Libutti, Bruce L. teaches the following:

> Glycol ethers which can be used in the microemulsion cleaners include such as **dipropylene glycol monomethylether (DPM) or tripropylene glycol monomethylether (TPM)**. For purposes of this disclosure and the claims, "glycol ether" shall include ethylene glycol. Preferably used as the glycol ether is DPM. If DPM is used, the amount of glycol ether used in the microemulsion cleaner is from 1 to 25 weight percent, typically 10 to 25 weight percent, preferably 18 to 22 weight percent; and more preferably 2 to 5 percent, depending on the application, where said weight percent is based upon the total weight of the microemulsion cleaner. For the concentrate, the quantity of DPM is preferably from 15-40 weight percent, most preferably 25-35 weight percent. If TPM is used, the amounts used are optimally about 15 percent greater than if DPM is used. (*emphasis added*)

Concerning the ethoxylated surfactant, Libutti, Bruce L. teaches the following:

> After formulating, the cleaners were visually tested for initial stability at 25.degree. C. and at 50.degree. C. The results are shown at the Table II. This table indicates that Examples 1 and 2, which contain the aliphatic hydrocarbon solvent (EXXSOL D-110) and at least three weight percent of the non ionic surfactant (NEODOL 91-6), had a lower VOC than the controls, yet were stable microemulsions. The improved stability from the

> **linear alcohol ethoxylate**s (Formulations 1 and 2) relative to the ester ethoxylate, REXOL 25 J, (Formulation A) is apparent after 3 months. The cleaning effectiveness of the microemulsion cleaners is shown in Table III. (*emphasis added*)

Concerning the corrosion inhibitor and the flashpoint, Libutti, Bruce L. teaches the following:

> The cleaners are easy to handle, mildly alkaline and have a clear to slightly hazy appearance. Although the cleaners may incorporate organic solvents and volatile **corrosion inhibitor**s which have low **flash point**s, they are safe to use because the addition of the primary amino alcohol increases the **flashpoint** of the microemulsion cleaner. (*emphasis added*)

Claims 1, 4-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Broze, Guy (US6369013).

Concerning the naphthalene depleted aromatic solvent blend and the aromatic solvent, Broze, Guy teaches the following:

> Typical heterocyclic compounds are 2,5-dimethylhydrofuran, 2-methyl-1,3-dioxolane, 2-ethyl 2-methyl 1,3 dioxolane, 3-ethyl 4-propyl tetrahydropyran, 3-morpholino-1,2-propanediol and N-isopropyl morpholine. A typical amine is alpha-methyl benzyldimethylamine. Typical halogens are 4-bromotoluene, butyl chloroform and methyl perchloropropane. Typical hydrocarbons are 1,3-dimethylcyclohexane, cyclohexyl-1 decane, methyl-3 cyclohexyl-9 nonane, methyl-3 cyclohexyl-6 nonane, dimethyl cycloheptane, trimethyl cyclopentane, ethyl-2 isopropyl-4 cyclohexane. Typical **aromatic hydrocarbon**s are bromotoluene, diethyl benzene, cyclohexyl bromoxylene, ethyl-3 pentyl-4 toluene, tetrahydronaphthalene, nitrobenzene and **methyl naphthalene**. Typical water insoluble esters are benzyl acetate, dicyclopentadienylacetate, isononyl acetate, isobornyl acetate, isobutyl isobutyrate and, alipathic esters having the formula of: ##STR5## (*emphasis added*)

Concerning the fatty acid alkyl ester and the ethoxylated nonylphenols, Broze, Guy teaches the following:

> The water soluble nonionic surfactants utilized in this invention are commercially well known and include the primary aliphatic alcohol ethoxylates, secondary aliphatic alcohol ethoxylates, **alkylphenol ethoxylates** and ethylene-oxide-propylene oxide condensates on primary alkanols, such a Plurafacs (BASF) and condensates of ethylene oxide with sorbitan fatty acid esters such as the Tweens (ICI). The nonionic synthetic organic surfactants generally are the condensation products of an organic

> aliphatic or alkyl aromatic hydrophobic compound and hydrophilic ethylene oxide groups. Practically any hydrophobic compound having a carboxy, hydroxy, amido, or amino group with a free hydrogen attached to the nitrogen can be condensed with ethylene oxide or with the polyhydration product thereof, polyethylene glycol, to form a water-soluble nonionic detergent. Further, the length of the polyethenoxy chain can be adjusted to achieve the desired balance between the hydrophobic and hydrophilic elements. (*emphasis added*)

Concerning the glycol ether, dipropylene glycol n-butyl ether and the alcohol acetate, Broze, Guy teaches the following:

> Representative members of the polypropylene glycol include dipropylene glycol and polypropylene glycol having a molecular weight of 150 to 1000, e.g., polypropylene glycol 400. Other satisfactory glycol ethers are **ethylene glycol monobutyl ether (butyl cellosolve), diethylene glycol monobutyl ether (butyl carbitol), triethylene glycol monobutyl ether, mono, di, tri propylene glycol monobutyl ether, tetraethylene glycol monobutyl ether, mono, di, tripropylene glycol monomethyl ether, propylene glycol monomethyl ether, ethylene glycol monohexyl ether, diethylene glycol monohexyl ether, propylene glycol tertiary butyl ether, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monopropyl ether, ethylene glycol monopentyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monopropyl ether, diethylene glycol monopentyl ether, triethylene glycol monomethyl ether, triethylene glycol monoethyl ether, triethylene glycol monopropyl ether, triethylene glycol monopentyl ether, triethylene glycol monohexyl ether, mono, di, tripropylene glycol monoethyl ether, mono, di, tripropylene glycol monopropyl ether, mono, di, tripropylene glycol monopentyl ether, mono, di, tripropylene glycol monohexyl ether, mono, di, tributylene glycol mono methyl ether, mono, di, tributylene glycol monoethyl ether, mono, di, tributylene glycol monopropyl ether, mono, di, tributylene glycol monobutyl ether, mono, di, tributylene glycol monopentyl ether, mono, di, tributylene glycol monohexyl ether**, ethylene glycol monoacetate and dipropylene glycol propionate. (*emphasis added*)

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglass McGinty can be reached on (571)272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory E. Webb
Primary Examiner
Art Unit 1751

gew